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ABSTRACT

This practical reference guide for college faculty who teach large classes is presented, based on a workshop on improving teaching and learning in large classes. The workshop involved weekly meetings for the academic year, 1981-82, at Colorado State University. The following problems of teaching and learning in large classes were identified: (1) social and physical control of the classroom; (2) class discussion and questions; (3) the personalization of instruction including use of the small group technique; (4) building and maintaining rapport with students and other affective factors; (6) the lecture: content, delivery, and notetaking; and (7) use of media. Suggestions are made for promoting student comments and discussion. (JD)

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Improving Teaching and Learning in Large Classes: A Practical Manual

by

Kay Herr

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INTRODUCTION

During the academic year 1981-82 the Office of Instructional Services at Colorado State University sponsored a workshop for faculty members on improving teaching and learning in large classes. It had been anticipated by the directors, Kay Herr and Jack Avens, that this workshop would last for one semester. However, it continued with weekly meetings for the entire year and was a very exciting experience for the participants. It provided an opportunity for the challenging of teaching and learning assumptions; the exchange of ideas; and, by virtue of the collective experience, an encouragement to our own individual creativity.

All participants are thanked for their contributions, good humor, and often sagacious wit. Particular thanks are due the following faculty members, who continued through the second semester.

William Aufderheide
Ken Barbarick
Duane Johnson
Mildred Johnson
Linda Morton
Elaine Roberts
Judy Weissinger
Ted Weston

In particular, Jack Avens is also to be thanked for his editorial assistance and suggestions for the original manuscript. In 1989 the handbook was revised to reflect additional research and experiences with large classes.

The first task of the workshop was to identify those problems of teaching and learning as perceived by participants to be the most important ones in large classes. These were: social and physical control, discussion or question and answers, the personalization of instruction including usage of the small group techniques, building and maintaining rapport together with other affective factors, testing and grading, the delivery and content of the lecture, and the usage of media. We spent no time bemoaning the existence of the large class, which we considered not likely to disappear from

university instruction. Nor did we wrestle with the definition of the *large* class. *Large* is what is perceived by the instructor to be such, and in one discipline this might be forty students but in another could be two-hundred. We assumed the prime teaching mode of the large class would remain the lecture.

Our discussions included examination of our teaching assumptions, which in many instances we had not previously articulated for ourselves. However, these assumptions undergird everything we do in the classroom, and for this reason they should be not only articulated and examined but challenged as well.

It was announced at the beginning of the workshop that the information generated from the sessions would be published in a manual to provide a practical and useful reference for those who teach large classes. We hope you are provoked to reexamination of your own course or courses and stimulated to and by new ideas as were we. Above all, we urge you to avoid complacency and routine and to remember that there is a variety of effective teaching styles with which to experiment until you find those which suit you best in a given situation.

I. SOCIAL CONTROL OF STUDENTS AND PHYSICAL CONTROL OF THE LEARNING ENVIRONMENT

Possible Assumptions

1. *Social control can be maintained only by enforcing strict behavioral standards.*

2. *Students are responsible for their own behaviors and will bear the consequences thereof.*

Social control, the management of student behaviors, is a factor generally agreed to be of greater import in a larger class than in a smaller class; and faculty concerns about student comportment have increased in recent years. The instructor may have difficulties getting and maintaining student attention, and there is concern about cheating on examinations.

Getting the attention of students is crucial, particularly on the first day of classes when the class behavioral mode is to be established. One should always start punctually with the expectation that students will be on time. An announcement that class will always begin and end promptly may not be out of place. Naturally, then, if one has material to be written on the board, this would have to be done before class begins, necessitating the early arrival of the instructor. One could begin by talking very softly, which will, however, draw attention only gradually; thus, some students may miss the first few sentences. On the other hand, some instructors prefer a loud, exclamatory remark. Another tactic, perhaps more effective, is to assume an attitude of readiness and simply remain silent until all have given you their full attention. Silence is an underused teaching tactic, for some persons are uncomfortable with it. However, judiciously employed, it can be very effective. Some might wish to try at the beginning of class a brief physical exercise designed either to invigorate or relax the students, depending on the time of day, time in the school year, or the need of the group. A mental focusing verbal exercise is another possibility. One faculty member with a class of 200 students blinks the room lights on and off to signal the

beginning of the hour.

A student behavior that disturbs many professors is the reading of the student newspaper, and there are two professorial schools of thought regarding this. Some prefer making an announcement that newspapers are to be put away; and one may then need a few moments of silence to assure that all have done so, sweeping the room with one's eyes to assure cooperation. Yet others maintain that it is the student's right to read a newspaper if she or he chooses. There will then very likely be several students doing so, but the instructor should be sufficiently sensitive to assure that this behavior is not a distraction for other students. If you find the newspaper or any other behavior distracting, it is best to say or do something. Too many persons are hesitant to let students know their true feelings, but our very reticence in doing so can produce an effective teaching device as our emotions are then something unusual. Students appreciate knowing we are human. You may choose to ignore the personal distraction and speak louder and more directly to those who are attentive. As your enthusiasm builds and involves those students who are paying attention, others may begin to become involved as they realize you and the other students are moving on with or without them.

It is also suggested that one present at the beginning of each class an outline of the day's lecture, whether verbally or written either on the board or on a handout. Whatever means the instructor selects to get the attention of students, one should do exactly that, i.e., wait until they are attentive. Moreover, it would be good to vary the strategies from day to day.

Keeping student attention may require tending to the chatterers. The suggestions for dealing with this problem include talking to them privately, which will require singling the students out at the end of the class and calling on them by name if the professor already knows the names. This may prove embarrassing for the students, which some would say they deserve. However, the teacher's task is to encourage all students to learn, and one is well advised to begin the private conversation with a remark such as, "I'm sorry I had to call attention to you, but your chattering was disturbing my lecture

and thinking, and I expect it was bothering the students around you too." If serious enough, one may have to interrupt the lecture and class, drawing attention to the problem, perhaps using sarcasm, although this is a weapon that should be used carefully and in a humorous tone. A sudden silence may solve the problem too. One of our more humorous workshop participants had found it effective to hand chattering students fifty cents and tell them to go get a cup of coffee.

Other student behaviors that can be bothersome are late arrival and early departure, eating and drinking, and falling asleep. Again, one's criteria for controlling these behaviors should be what disturbs you, the professor, and other students. Ground rules need to be clearly set forth, stated both orally and in writing in the syllabus. If someone sits right in front of you, vigorously crunching potato chips, you may wish to speak to them privately. However, a degree of flexibility is at times advisable, particularly in view of the demanding work schedules some students must maintain. If, for example, you have a student whom you judge to be serious and sincere and who is working all morning with classes beginning at noon, that student may need to eat a lunch the first few minutes of class. One can, however, expect that they do so unobtrusively. Students who consistently fall asleep in a noticeable fashion might also benefit from a private conference with you to determine the reason for their fatigue.

The last few minutes of class is a common time for student attention to wander, and often one is interrupted by the zipping of backpacks or the creaking of moving chairs. If the instructor is not careful, a fair amount of time can be wasted at the end as well as the beginning of class; and both are vital times. In the closing minutes one may be summarizing the substance of the lecture, a contributing factor to digesting and learning the material. Thus, one may wish to make a remark designed to refocus student attention: (With a smile) "You have four more minutes for which you have paid, and I shall end promptly, so just wait to grab your back packs." Or, if the instructor knows students' names, "Caroline, you're packing up, so it must be close to the end of the hour. Just wait a bit." Once these kinds of expectations have been established as class operational

procedures, one should not need to repeat the admonitions every day, although an occasional reminder may be necessary. Any such reminder should be in a good-natured tone of voice, showing that you are in complete control of the situation.

An additional suggestion for the end of class is the creation of suspense, which can be accomplished in a variety of ways such as posing a question, "What if . . . ?", or even stopping punctually in the middle of a sentence with appropriate histrionics, a nonverbal expression of anticipation for what is to come on the next class day. One should make sure that there is no consistent verbal or nonverbal clue signaling the end of class, which will cause students to lose attention. Such a cue might be the return to the podium, gathering of papers, the unrolling of shirt sleeves, or a variety of other gestures or phrases. We are often quite creative and individualistic in our verbal and nonverbal expressions -- without realizing what we are doing. An outside observer can often identify our nonverbal cues better than we ourselves can.

Most participants agreed it was beneficial to vary the lecture mode in the course of the class hour and that such diversion resulted in better attention. One might pose a question such as, "How many of you ...?", have students do some sort of physical exercise, tell a joke, or anything that breaks the established pattern. Creating surprise is a good diversion technique, and one will notice improved vigor during the remainder of the class period.

"Creative seating" may contribute to better student conduct and to rapport -- social and physical control. It is very interesting to notice seating patterns and types of students. What kinds of students sit right in front, on the sides, close to the door, and at the back? (There are parallels to our own behaviors in faculty meetings!) Getting students to change their seats can also change their responses to the instructor as well as to each other, and this tendency can be used to improve their learning. One might announce on the first day that everyone is expected to sit in a different place each day or each week, and this policy must be enforced in a good-humored manner. Such a technique will establish

different teacher/student, student/student relationships and break routine. An occasional surprise may not be out of order if physical facilities permit. The instructor could lecture for a change from the back of the room and have students turn their chairs around.

Above all, one should avoid sparse seating if the number of available seats is significantly larger than the number of students; for this can detract from rapport and provoke a feeling of spiritlessness. Continuing the idea of establishing the ground rules on the first day, one can invite and strongly encourage students to come forward towards the front of the room. This should be done in a good humored manner, and it may be advantageous to explain to students why you want them to sit this way. There is nothing wrong with simply telling them that it makes it easier for them to see and hear you as well as each other each other and helps their concentration.

It behooves us to think about the physical environment and control it to the extent we determine necessary and as possible. This means we should check the room before classes begin. If chairs are movable and an arrangement other than linear is what we want, then the students need to rearrange the chairs as they come in the room. As a courtesy to those coming in at the next hour, the chairs should be restored to their original positions after class has ended. Students are quite good natured about doing this once the routine has been established.

Cheating or temptations to do so on examinations is also a concern having to do with social control, and there are no easy answers to this disturbing problem. While the instructor may consider it necessary to take precautions that discourage cheating, one should remember that most students are not disposed towards such action. The usage of multiple examination forms distributed at random and extra proctors are common ways of discouraging cheating. It may be possible to announce special examination times, most probably in the evening, and to obtain a larger room than assigned the class so that students can then sit in every other seat. However, scheduling such examinations may be a problem because of conflict with other evening classes, and the

instructor might have to administer the examination to some students individually in order to accommodate student schedules. It is quite improper to expect a student to miss one regularly scheduled class for the sake of another specially scheduled session.

One workshop participant used group take-home essay examinations as part of the testing methods. To conduct examinations in this way a small group of no more than four or five persons works on an examination together, submits it as a single exam, and each student in the group receives the same grade. A disadvantage is that students may suffer from the poor performance of one student. Students comprising the group would be changed for different examinations. An advantage is the encouragement of peer teaching, which can be very effective. Many of us have observed one student explaining something to another in a more comprehensible way than we had been able to do. Students can be allowed to work on the exam individually if they prefer not to work in a group.

Teachers need to be aware of the consequences of accusing a student of cheating. Solid evidence ought to be available, for suspicion is not sufficient. The appeals process may be invoked by the student, and the professor would then have to be prepared for some rather painful meetings. While it is extremely unlikely that such a case would go beyond the university into the legal system, in those rare instances the courts have tended to stand behind the professor if reasonable evidence is present. These possibilities should deter none of us from doing whatever is necessary to uphold academic integrity.

In summary, social and physical control of the environment insofar as possible are important factors in the large class, and it deserves the attention of the instructor in planning the course. Giving this area minimum attention may be satisfactory for those who are able to exert a natural leadership over a group. Others may find themselves frustrated by undesirable student behaviors in which case a choice of strategies and improve the effectiveness of learning. Yet even those who may naturally and without apparent effort promote satisfactory group behavior will benefit from analysis of how they achieve this state, for it may be possible to do

some things even better than before. There is a place for somewhat rigid patterns to control behaviors as well as for a more flexible style; both can produce effective teaching and learning. All ground rules and expectations for student behaviors should be clear from the outset, and these can be presented on the first day with firmness yet good humor. Students are likely to react negatively if this explanation is presented with rigidity and an unstated expectation of poor comportment. One's expectations should also be explained in the syllabus. Workshop participants considered it very important that the professor's guidelines for student behaviors be clear and consistent from the beginning of the course. We also recommend the incorporation of variety and surprise to promote desired student behaviors.

II. CLASS DISCUSSION AND QUESTIONS

Possible Assumptions

1. *The large class precludes discussion.*
2. *Discussion is an encouragement to learning and should be promoted in all classes, no matter what size the class may be.*
3. *The student who does not understand my explanations is not worth my time.*
4. *Discussion only needs immediate guidance and does not need to be planned ahead of time.*
5. *Quiet students are not likely to be learning as well or enjoying the class as much as those who are extroverted and talkative.*

All workshop participants agreed that discussion is a factor which will enhance learning in the large class because it can reveal or clarify student confusion, enable the professor to respond to student interests or curiosity, and spark students' interest. It should be a planned part of the instructional process, *not* a chance occurrence. An occasional teacher may be a very dynamic lecturer, able to hold student interest day after day; but, for the most part, to lecture without break or variety is to encourage passivity in students.

Assuming one wants to plan a discussion component, several possible problems should be considered. The instructor will need to create an atmosphere encouraging student remarks or questions, overcome possible physical obstacles to discussion, and seek to involve all students in the discussion process even though not everyone can speak.

Getting students to feel comfortable speaking requires a positive atmosphere created by the teacher who intentionally uses both verbal and nonverbal means to do so. A student comment or question should be positively reinforced with remarks such as "I'm glad you

asked that question," "Thank you for your comment," or "I appreciate that remark." Naturally such responses from the instructor must be in moderation; they will lose all meaning if made too frequently, and they must be sincere. If they are not, students will perceive the insincerity through an intuitive understanding of nonverbal communication. At times a slight smile and nod of the head may be all that is necessary to provide the necessary reinforcement. Inviting hand and arm gestures may also be effective.

The whole area of nonverbal communication is a vital one in the teaching and learning process. Unfortunately, there are professors who contradict their words by the other messages they send nonverbally. We may hear from students that they are afraid to ask a question in a particular class because they fear the professor will denigrate them. Most of us have probably sat at one time or another in a classroom or meeting ourselves with the very strong feeling that we did not want to ask a question because of the discomfiting atmosphere. Virtually no one would say directly, "That was a stupid remark." However, this message can be communicated indirectly by a statement such as "We discussed that two weeks ago," stated in a discouraging or sarcastic tone of voice. The negative attitude might also be conveyed by a lift of the eyebrows, a hand gesture, posture, or tone of voice. Those wishing to learn more about nonverbal communication are encouraged to have a class videotaped for self-analysis or to participate in the microteaching workshop within the Professional Development Institute, during which we also offer the "Teacher as Actor" workshop, which greatly enhances understanding of the nonverbal realm. Several classes in the School of Occupational and Educational Studies also address this topic, and faculty are welcome to enroll for them or sit in on the appropriate class sessions. If an instructor has difficulty generating discussion, the nonverbal messages could well be a major cause.

It is very natural for us to ask, "Do you have any questions?" during or at the end of class, and we ask this question because of the sincere desire to clarify student confusion or provide additional information. Nonetheless, as Robert Titley of the Department of

Psychology so convincingly explained in a "Let's Talk Teaching" seminar on discussion techniques (October 6, 1981), this remark works against promoting discussion. The indirect suggestions we are giving are either that the student is stupid for not understanding in the first place or that we did a poor job of explaining our points. Thus, instead of saying, "Do you have any questions?", we suggest rephrasals such as, "Is there anything you would like me to clarify?", "Shall I explain anything again?", or "Is there any point on which you would like me to add additional information?" Those who have tried this very small change have found it makes an amazing difference in the rapidity and quantity of student response. Positively stated inquiries like the above indicate that you expect good students to respond.

We also suggest that the instructor not ask questions to which she or he knows the answer. Quite simply, why should one pose such a question? It is completely unnecessary and contributes in no way to developing the critical thinking abilities of our students. Rather one can again rephrase the question and by so doing more readily elicit student responses and at the same time show a respect for the student as an intelligent being. One can preface the usual question with such phrases as, "What do you think . . . ," "Do you accept . . . ," "In your opinion, why . . . ," "Who has an idea about . . . ," or any such phrase that makes the question one to which the instructor does not know the answer. This technique also personalizes the question for the student.

If one accords the appropriate importance to the discussion process, it should surely not be an activity left to the last few minutes of the class hour. Rather it should be a well thought out teaching and learning activity and an integral part of the lesson plan. What is the discussion designed to do? Are there specific points one wants to have addressed? If so, then a rather strong discussant leadership role may be necessary with questions or remarks planned towards the specific goals. If, on the other hand, it is intended to provoke brainstorming, creative problem solving, or personal opinions, then a less structured discussion is appropriate; and the professor should be prepared to take a minor role of facilitator. Under all circumstances, the goal should be clear in one's own mind with specific

objectives established and appropriate methods selected to reach that goal.

There may be physical problems in conducting a discussion or question and answer session in class. For example, acoustics may be such that students cannot hear each other well. The instructor will then have to repeat the question for all. (One of the most common and frustrating mistakes in teaching is not repeating the question--this one is right up there with misuse of the overhead projector!) In such a situation it is probably advisable to avoid a large-group discussion and to structure instead small-group activities.

As an aside, often coupled with the large class are smaller discussion sections staffed most probably by graduate students. In such an arrangement, the professor should take very seriously the responsibility of monitoring and assuring the effectiveness of such sections. The graduate students should be closely supervised, clear discussion goals and objectives and means of evaluation should be specified, and the instructor should visit these classes and assure in all possible ways the quality of the teaching. While the university is and shall remain a training ground for graduate students, the undergraduate student experience should not suffer as a result.

Another physical problem may be the arrangement of tables and desks or chairs. In some classrooms, they may be bolted down and prevent students from being able to look at the student who is talking. Such an arrangement can also impede small group activities, which will be discussed in a later chapter.

Involvement of others in the discussion or question and answer process is another bothersome problem which can be attacked nonverbally and verbally. Humor could be used to provoke students to responding, and one might say, "Now, I'd like to hear from someone with brown hair and blue eyes, please," or, "Does anyone with a birthday in April have an opinion?", or "If no one has anything to say, it's going to be a long . . . minutes, folks." With this last remark one may need silence as a teaching tactic, but a response will almost certainly be forthcoming. It is important at all times that one give

students time to think during discussion or after questions in order for them to formulate comments and answers; they have, after all, paid for that right. Too often we are inclined to fill the void of a few seconds of silence with our own answers to our question or remarks, and/or we follow one question with several others. This technique tends to confuse the students who do not know which question to answer first.

Nonverbally we can involve students by gestures, which expand from the individual student to the larger group. The professor can first concentrate upon the individual and then with eye contact, head movement, and hand and arm gestures invite the rest of the students to participate. If the goal of the discussion is student/student exchange, the professor should try to direct attention away from him or herself by not saying anything unless absolutely necessary and with nonverbal encouragement of student response. Students are so accustomed to passive learning and teacher-centered classrooms that one must actively work to change this direction, and it can be wonderfully exciting to do so. This can and should be done occasionally because research and our own experiences prove to us that the involved student learns better. The role of the instructor then becomes that of facilitator rather than leader.

A final note on nonverbal communication deserves mention, namely, the feedback it can offer us while we are either conducting discussion or lecturing. Even though the class may be very large, one should scan the room occasionally to monitor student attentiveness. The students closer to the front will provide cues as to the degree of understanding and involvement in what we are seeking to do. If several puzzled looks are noticed, it is perhaps time to pause and do a comprehension check. If a general air of restlessness is sensed, one might need to take measures to refocus students' attention. This area, too, is one that can be examined and understood and made to work for us if we are willing to take the time to do so.

There remains the problem of what to do with the student who wants to pursue a particular point too far in questioning, and one can sense that the attentiveness of the rest of the class is waning. You should then

tactfully indicate that you would be happy to continue the discussion with the student after class or at another time. The indirect suggestion of tone of voice and other nonverbal messages will enable preservation of the positive atmosphere while redirecting the discussion.

Naturally, discussion or a question and answer period in the large class will leave many students uninvolved in a direct and participatory way. However, it is a mistake to assume verbal passivity in a class means a lack of learning. We may have an inclination to think the active, articulate student is learning more than the passive student; but this need not be true as we so often find out through private conversations, examinations or papers, and small-group activities. If we wish to encourage more active participation from all students, it behooves us to explain our reasons. We must then, of course, know our own reasons for wanting discussion. Undoubtedly we wish to promote improvement of communication skills. Moreover, a university experience should be a testing ground for the students' ideas and reasoning powers; and, if this is not orally exercised, the opportunities are limited to written work. It is also not out of the realm of possibility that a student may generate a fresh idea or perspective. If this thought remains unstated, both teacher and other students remain uninformed.

Additionally, one can encourage the quiet student by using writing techniques. For example, one might say, "Please write down quickly five possible . . . " and then call upon a generally hesitant student for a response. The written aid will help that student to make a comment. Another technique is particularly useful not only to encourage widespread involvement but also if the instructor does not feel time can be taken for a substantive discussion or question and answer period. In the last few minutes students are requested to write on a piece of paper any ideas, opinions, or questions they may have about the material presented that day. The instructor must then be prepared to glance at all of them and address the student's comments at the beginning of the next lecture. It is to be expected that these comments will be easily categorized. This technique is also an excellent way to monitor student understanding before examinations, and one may be astonished at the

misunderstandings that have occurred.

Because discussion is a time-honored and essential experience within a university education, we recommend that it be part of every course -- large class or small. As explained, there are ways of involving more students than the readily talkative few, and these ways should be explored and explained. A positive atmosphere can and should be created to encourage student involvement.

III. THE PERSONALIZATION OF INSTRUCTION INCLUDING USE OF SMALL GROUPS

Possible Assumptions

1. *The student who is affectively involved with the material for a class will learn better than the student involved only cognitively.*

2. *Affective involvement of a student is not important to the degree of learning which occurs.*

3. *It is particularly important in the large class that the professor seek ways to recognize the individuality of each student.*

4. *The usage of small groups promotes worthwhile discussion and gives the student a sense of individuality within the large class.*

5. *There is so much material to be learned that no time remains for the implementation of techniques designed to appeal to the affective domain of students.*

Many remarks circulate on college campuses about large classes, large bureaucracy, and the subsequent loss of individuality; and it becomes clear that students do indeed often feel like numbers rather than individuals. Certainly the university is not the only societal institution which has become large and impersonal. However, as an institution charged with an educational mission, we ought to seek ways to lessen this sense of loss of individuality, which many students apparently feel. In order to learn and grow, in order to share enthusiastically newly acquired knowledge or burning questions with another student or the professor, the student must have a sense of existence as an individual. It is also generally agreed that the involved student learns better than the uninvolved student. We, for example, can look to past learning experiences and compare our own efficiency when we felt an excitement about what we were learning to that feeling of tediously

trying to acquire knowledge without a feeling of enthusiasm. For these reasons, we recommend that the professor seek ways to personalize instruction in the large class.

Affective techniques, which means those measures taken to involve students emotionally rather than just cognitively, can be used in a variety of ways. If one poses a question such as, "How many of you believe that . . . ?", the affective domain is being addressed. One could vary the oral question(s) by using a very brief questionnaire that would involve student opinion and then working the results into the next lecture. Values clarification exercises may be productive and have been used in a variety of disciplines with success. They are worthwhile not only because they tap the individuality of a student but also because the value system may have a strong impact on what the student learns. For example, if the students read something portraying a value system opposite their own, they may tend to reject that material and, thus, not learn about it as well as about something else which does not offend their value system.

Research in cognitive development has provided us with useful information about how students learn. The majority of traditional college age students are just beginning to move out of a simplistic development stage where they see the world as either right or wrong, true or false. Our hope is that their formal education contributes to moving them towards a more mature and relativistic world view, and the kinds of questions we ask are a significant factor in this formalized developmental path. Astonishingly, research reveals that the majority of questions we ask in higher education require simple recall rather than higher order thinking, which will involve them both cognitively and emotionally.

The usage of physical or mental relaxation exercises is another worthwhile affective technique. Likewise, role playing has been used successfully in various subject matter areas. Guided imagery has also been utilized with success. Such techniques need not take much time in class, but that time will have been well spent because of the increased enthusiasm that can be generated, which

results in increased learning.

Certainly within the personalization of instruction falls the learning of student names, and all workshop participants considered it essential that this be accomplished as completely and quickly as possible. A recent chance encounter and brief discussion with a professor who routinely teaches a class of nearly 200 students led the professor in question to remark offhandedly, "I don't even try!" This is probably not the most productive attitude one can bring to the teaching and learning process. Students are individuals, and they will respond to our recognition of this fact. It is quite all right to let them know that you are making an effort to learn their names even if one cannot manage all of them. One professor takes photographs of all students while another requests each student temporarily provide a personal photograph. Arriving a few minutes before class lets the professor concentrate on a small group of students and memorize their names. This task is also easily made playful, and students will join in good naturedly and in the process learn each others' names more quickly. A small contribution to personalizing instruction is to preface remarks on written work with the student's name.

Small groups can be utilized effectively in the large class and have several advantages: students have an opportunity to discuss, they become acquainted with each other, rapport is enhanced, and the student becomes actively involved. Even if the physical environment precludes a group of four to six students, as when tables and chairs cannot be moved, tasks can still be planned for pairs of students. If possible, it is good advice to stack the group so as not always to have the same students working together. A general instruction such as, "Please talk to someone with whom you have not yet spoken," may be all that is possible in the very large class. If space and time permit, one can be more creative in the directions to form the small groups: "Let's have four persons here who have a birthday in February," or "Six people who know the name of the Secretary of Defense."

Once the groups are formed, the task should be assigned and preferably either written on an overhead,

the chalkboard, or on a printed page to be distributed. If the task is just explained orally, it will not be heard or understood by some. Valuable time will be wasted by having to repeat the instructions. Open-ended, non-directive tasks are a poor choice for the small-group activity as students might be inclined to wander off the subject; and in the large class the professor cannot monitor all the coversations very well. An example of a lack of specificity is, "Please discuss for ten minutes the problems of food shortages in the African countries." The task for the small group should rather be highly structured both in content and time frame so that the discussion remains on the subject and is productive. It is also advisable to have an accountability factor built into the task: "Please identify in five minutes the causes of food shortages in African countries and in the next ten minutes identify possible measures to eliminate the causes. Select one student to list the causes and possible solutions, and this sheet will be collected." Small-group tasks can also be planned as outside assignments and should be well structured, including a written report of some sort. Just as with a discussion among all students, the professor should have clear goals and objectives in mind for the small-group discussions. Those wishing to explore the usage of small groups are encouraged to enroll in a workshop on this topic, which is a part of the Professional Development Institute.

These suggestions for appealing to the affective domain of students and personalizing instruction are only a beginning, and we hope they stimulate you to apply them to your own discipline and to generate new ideas for what we might also call the humanization of instruction.

IV. BUILDING RAPPORT WITH STUDENTS

Possible Assumptions

1. *Rapport contributes to improved teaching and learning effectiveness.*

2. *The degree of rapport has nothing to do with teaching or learning effectiveness.*

3. *An instructor either develops rapport with students naturally, i.e., without planning towards it, or it cannot be developed.*

4. *Like any other factor of teaching, the development of rapport can be encouraged and improved by planning.*

Rapport is that sense of positive relationships and atmosphere existing among students and between professor and students whereby a spirit of harmony and trust generally prevails as both professor and students go about their tasks. While it is difficult to define the word *rapport* in a way which conveys the fullness and satisfaction present when rapport is felt, it is easy to recognize and feel its absence. The classroom without a sense of rapport may be a negative one in which students and professor are set against each other, and considerably less than maximum learning will occur. It may also be an atmosphere of fear, which will inhibit exercise of one of the main purposes of education, the generation, flow, and criticism of ideas. And it might also be an atmosphere of indifference. None of these atmospheres -- negative, fearful, or indifferent -- is a very desirable one for the arousal of the excitement that is learning, and all workshop members agreed wholeheartedly that rapport is an element essential for effective learning. Some persons are able to develop it without conscious effort, but others may need to be purposeful in working towards promoting it.

A number of suggestions already given contribute to rapport, such as learning student names, even if this takes a fair amount of time, and letting students know that you care enough to be trying to do so; being aware

of the humanness of students and realizing that their attention may wander just as does ours at a faculty meeting or scholarly presentation; and taking a break in the middle of the lecture at least on some days. One should purposefully construct an atmosphere comfortable for students to contribute orally and be aware of verbal and nonverbal indirect suggestion from oneself and from students. Personalizing instruction in a variety of ways lets students feel the professor cares about him/her as an individual. Creative seating encourages students to get to know one another. Going early to class, putting whatever is necessary on the board, and then spending the remaining couple of minutes chatting with students lets them know you are interested in them. Take any opportunity to let students know you care about them and their learning!

In addition, we offer a number of other suggestions, which are listed below.

1. Let your excitement and interest about your discipline show. You have, after all, chosen it as your life's work, and you should be excited about it. In your own way, be active and dynamic. However, don't be an academic myopic! Whenever possible, show where material is applicable to another course or area of knowledge, and plan this as part of the lecture rather than let it be chance thoughts which occur to you every once in a while.

2. Availability to meet with students outside of class during established office hours and by appointment is a serious professional responsibility. One should schedule a sufficient number of hours to have ample time for all students needing such extra attention. Office hours and appointments *should be kept* except in cases of illness or emergency, and if cancelled or changed, a note should be placed on the door. If known ahead of time, any change should be announced in class.

3. Be aware of interests and background preparation of students. Some find it helpful to have students fill out an informational form on

the first day of class. Sometimes little tidbits of information from such forms can be worked into lectures, and they can be useful if a student is having some difficulties with a course.

4. Use humor where it is natural, spontaneous, and appropriate. Naturally, humor should never be sexist, in bad taste, or demeaning of any student or group of persons. This would be not only contrary to appropriate and ethical professorial behaviors but also against University policies.

5. Have a conference with each student either assigned as part of a class activity or to solve an individual problem.

6. One may know some students from enrollment in a previous class or a student organization. Use this already established relationship by making casual remarks before and after class, and expand the nonverbal inclusion of others in the exchange. Showing a good rapport with one student in the class will have a positive effect on establishing rapport with other students.

7. What a student says, too, can contribute to rapport. Don't dismiss their remarks. Consider almost any comment worthy of your thought and appropriate response.

8. Be alert to changes in student performance or classroom behavior. If a student who has been doing quite well on exams and other class activities suddenly fails to perform as you would expect, ask to meet with the student in order to try to solve the problem before it becomes overwhelming. Likewise, if the poorly performing student suddenly shows marked improvement, congratulate and encourage the student to keep up the good work. It might be worthwhile to talk to the student about what changes were made that led to the improvement. By so doing, one can develop a repertoire of learning strategies to pass on to students with similar problems. The professor should also be

acquainted with the functions of the several student service organizations so that appropriate referral advice can be given if a personal problem develops and comes to the attention of the instructor.

9. Finally and perhaps most importantly, students should at all times be treated with respect.

Many elements work together to create rapport, and it is usually not accomplished as easily or quickly in the large class as in the small class. Stated quite simply, a sense of rapport improves learning, and therefore we ought to be doing all we can to build it.

V. THE LECTURE: CONTENT, DELIVERY, AND NOTETAKING

Possible Assumptions

1. *The lecture is the most efficient method of instruction.*
2. *The prime purpose of the lecture is to impart information.*
3. *Delivery of the lecture is not important; it is rather the substance that counts.*
4. *College age students should be able to take notes; those who cannot do not deserve assistance.*
5. *It is up to the students to provide their own motivation for learning.*

The lecture is the most commonly used instructional method for the large class and will no doubt remain so, for which reason it deserves our thoughtful attention. A dilemma often faced with respect to content, particularly in the technical and scientific fields which experience dramatic increases in factual information, is that of revising the content of the lecture. One cannot simply continue using the old lecture notes, a topic of student jokes which occasionally and unfortunately has a basis in truth. All workshop participants agreed that the lectures should be continually updated. One cannot continue to add new information without deleting less important material, and it is advisable to sacrifice some content in order to allow time for student involvement for the sake of better learning. Do not try to cover everything about a subject, because it is better to teach less but teach it more effectively.

The lecture should not be used to convey information that can be more efficiently acquired in other ways such as through texts, other books, additional printed materials, or audio visual aids. Nor should it be a repetition of material in the text or assigned readings, which is an insult to students. They will quickly realize

the uselessness of attendance. One should eliminate "busy work." Students are very sensitive to something that is a waste of their time. We should respect their time; it is as important as ours! The factual content of the lecture should be secondary to concepts and the teaching of problem-solving abilities and attitudes. Even in considering what concepts to cover, the instructor should not only ask, "What concepts do students need to know?," but in addition, "What concepts do they need to be taught?" It can be very difficult for us in this age of information explosion to have to leave things out, but the information explosion itself forces us to do that. We cannot simply talk faster. One of the most exciting things about teaching is to be able to attain the wonderful simplicity of explaining the conceptual framework of our discipline in a way that the novice can understand. That is our business!

In short, the determination of lecture content should balance the demands of the subject material with those techniques designed to encourage learning. If no thought is given to the enhancement of learning, the best possible lecture content will be lost, for it will not have been understood by the student. As one workshop participant remarked, "We are not dispensers of information, rather facilitators and interpreters."

We reject the assumption some people have that the main purpose of the lecture is to impart information, for information can actually be more efficiently communicated through printed material. The conveying of information is only one of numerous functions, and we suggest the lecture can also be used for the following purposes:

1. to involve students,
2. to inspire,
3. to motivate,
4. to demonstrate,
5. to apply concepts,
6. to hypothesize and test,
7. to solve problems,
8. to clarify,
9. to evaluate,
10. to analyze,
11. to identify,

12. to question,
13. to discuss,
14. to sensitize,
15. and to synthesize.

The purpose of involving the student in the lecture is to provoke better learning and should be the prime task of the instructor. If one does not seek to motivate students, teaching has become no more than the presentation of material. Yet involvement, motivation, and inspiration may seem formidable tasks to those of us who are not naturally gifted and charismatic lecturers. However, many techniques already mentioned can begin the process -- the attention-getting devices, interruption of the lecture mode by a question or brief discussion designed to involve all students, the use of silence and the pause to allow students to think, or ending the lecture on a suspenseful note. While these factors are important at all instructional levels, it is even more important to promote student involvement in introductory courses which are often the larger classes where many students may be freshmen unaccustomed to the large classroom situation.

Workshop participants devoted much discussion to the questions of delivery of the lecture. All believed any instructor so desiring can learn to improve delivery and that flamboyancy is not an essential ingredient for success. What is necessary is a good knowledge base and the professor's personal enthusiasm for the discipline. We have, after all, chosen our disciplines as our life's work, and this excitement should show. Enthusiasm is contagious! Students must also have a sense that the instructor cares about them as individuals. Without these elements, teaching effectiveness will be greatly diminished.

Such attitudes are conveyed in large measure not through our words but through our nonverbal communication -- our voice tone and modulations and our body language. As indicated early, these aspects can be analyzed and changed if necessary to improve our effectiveness.

The question of how much we should concern ourselves with whether or not the students like us arose

often in our discussions, and all agreed on several points. While "liking" is not something the instructor should seek to solicit, there is also nothing wrong with being liked. Indeed, students will learn better from someone they like, and they also prefer to think the instructor likes them. This relationship must, however, be built upon a respect arising from a professionalism which is conveyed by every action from the adherence to office hours, punctual arrival in class, clearly prepared syllabi, well articulated and current lecture content to prompt return of written work and examination results. Serious and rigorous grading standards, fairly applied, will not inhibit this relationship, for part of the teaching and learning process is enabling students to accept both their weaknesses and strengths and to go on from there.

Additional techniques relating to effective lecturing include talking *to* students rather that *at* them, maintaining eye contact with varying individuals. Be yourself, for students will respect your honesty with yourself as well as with them. Do not pretend to be what you are not, for you will rapidly lose attention, respect, and rapport.

The expected student activity during the lecture process is taking notes, an act that university instructors are inclined to take for granted. If you have indeed been doing so, we encourage you to collect a few sets of notes at the end of the lecture, which may provide you with quite a surprise. You will undoubtedly find students who have completely misunderstood some things you have said, there may be a total lack of organization, and main points may be completely absent. While some students may take good notes, many others are unable to do so. It is useless to blame them for this inability. Rather it is our responsibility to enable them to improve their notetaking, and this can be done without taking time from the class period.

Some disciplines and courses lend themselves to the distribution of "blanket notes," a very thorough presentation of the lecture content, almost an abbreviated text. The student then need only listen to the lecture, visually following the outline and perhaps occasionally making a note. Opponents of "blanket notes" believe this represents an unnecessary coddling of students while

proponents argue that the student is free from the pressure to take notes, and, consequently, can listen and think during the lecture.

One may choose to distribute a printed outline of the lecture with or without space to fill in notes. At the very least, the instructor should have written an outline on the board. It should be noted that the board must be completely and cleanly erased before doing so. When writing on the blackboard, which may be quite large in a big lecture hall, one should always progress from the left side to the right and avoid "blackboard chaos." Verbal repetition of the outline is a further aid to taking notes.

The instructor should also be sure to provide enough listening and writing time for students to take notes. One of the most common lecture problems is talking so rapidly that students do not have time to digest and order what is being said. The instructor should be alert to students' behavior. If no students ever look up from their papers, chances are the lecture is moving too rapidly, with the result that they are taking notes both frantically and poorly.

In summary, the lecture will continue to be one of the prime instructional modes, and very few naturally dynamic lecturers are born. Each of us can improve what we are doing with a little extra effort, and the result will be greater satisfaction for both teacher and students.

VI. THE USAGE OF AUDIO VISUAL EQUIPMENT AND OTHER INSTRUCTIONAL TECHNOLOGIES

Possible Assumptions

1. *It is not worth the effort to try to use audio visual equipment because it probably won't work anyhow.*

2. *Audio visual equipment can aid student understanding of material.*

3. *If I put things on overheads, that's enough organization.*

The problems in usage of audio visual equipment are well summarized by a student's remarks casually overheard one day in a hallway: "That guy goes through overheads like crazy. That's really stupid. If he'd just make them into handouts, then I could listen instead of scribblin' like mad. I don't even hear 'im." The citing of this remark is not intended to be critical of the overhead projector, rather to be critical of how we may be using it and other technological aids.

The advantages of overhead projection are that it can provide visual organization and save us the time of writing information on the blackboard or provide graphic or pictorial representation of points we wish to make. If students are expected to copy the information from an overhead, they must be allowed the time to do so. In such an instance, a handout might be wiser use of class time. Perhaps the most common problem with material on overheads is that it is poorly written and not big enough to be seen by all. The instructor is advised to test the transparency in the classroom before the class to be sure it can be clearly read from anywhere in the classroom. Depending on the placement of the projector in the classroom, it may be necessary to assure that one is not blocked from or blocking students' views. Above all, do not preface viewing the overhead with the words, "I know you can't see this, but . . . ."

Slide, movie, and videotape projection are other

common audio visual assists to instruction and can be very productive. However, the periods of darkness should be limited because of the very human tendency to waiver in attentiveness and perhaps even to fall asleep. Of course, one should not expect students to be able to take notes if the room is in complete or semi-darkness.

The usage of television as an instructional technology is rapidly increasing, and our campus has a closed circuit television system with monitors in over 200 classrooms. We also have an extensive video library. Those wishing to explore this technology further are welcome to come to the Office of Instructional Services for an introduction to the system and its possibilities. Faculty making frequent use of audio visual equipment may wish to explore using our special media classrooms in the Clark Building.

A few rules for the use of audio visual equipment of any sort should always be kept in mind.

1. It should serve the instructional goals and objectives.
2. The instructor must know how to operate the equipment, practicing beforehand if necessary.
3. Equipment should be checked beforehand for malfunctions.
4. One should avoid using valuable class time to prepare the equipment.
5. All materials should be clear and well organized.
6. To provide for the rare instance of malfunctioning equipment, one should always have taken a few moments to develop contingency plans.

Certainly microcomputing is another important instructional technology, and there are laboratories all around campus within colleges and individual departments. Microcomputing Services Organization offers workshops for faculty and staff throughout the year with the intent of keeping up with this changing technology. Developments in this area are very significant for the nature of instruction.

VII. CONCLUSION

The majority of students enrolling in our classes are persons of good will with an enthusiasm for learning. We must remember that it is natural to be curious and natural to learn! It is our responsibility as professors to to be well organized, to know our subject thoroughly, and to maintain and increase student interest and enthusiasm because the inseparable partner of *teaching* is *learning* -- this is our business, this is our profession.

As mentioned in the introduction to this manual, no single teaching method suffices for all persons in all situations to promote the most effective learning possible, an ideal we should always have before us. There is rather an exciting and rich variety of teaching styles, methods, and techniques from which we can select. Our choices will depend upon our subject material, our own and students' developmental levels, and our personalities.

Campus resources are available to help us in this growth process, and these resources are centralized in the Office of Instructional Services, which includes Professional Development Services. Many workshops and seminars are available on matters of teaching and learning, and you will receive information on them. Individual consultation with an instructional development specialist is available as well. Other resources may be available at the college and departmental level.

Each of us probably has more students in our classes than we would consider desirable for the optimal learning situation. Given the financial situation of most institutions of higher education, the large class is here to stay. That fact, however, should not inhibit or discourage our excitement about our teaching situation because we can work to improve our presentations and our conduct and control of class, to vary our style and techniques, and to better our relationships with students.

The suggestions in this manual, generated by practicing college teachers in a workshop setting, will be of interest to professional educators, who will never be fully satisfied at the end of their classes and will always seek to improve teaching and learning effectiveness.